REPLACEMENT SHEET
5 April 2004

What is claimed is:

1. A composition of matter which comprises ~~a~~ an isolated nucleic acid according to SEQ ID NO: 1.

~~2. A composition of matter which comprises a nucleic acid selected from the group consisting of nucleotides 1234-3618 of SEQ ID NO: 1, a fragment thereof and a substantially homologous variant thereof.~~

~~3~~ 2. A composition of matter which comprises an isolated nucleic acid ~~according to claim 2~~ which comprises nucleotides 1234-3618 of SEQ ID NO: 1.

~~4. A composition of matter which comprises a peptidic sequence selected from the group consisting of a peptidic sequence according to SEQ ID NO: 2, a fragment thereof and a substantially homologous variant thereof.~~

~~5~~ 3. A composition of matter which comprises ~~a~~ an isolated peptidic sequence encoded by a nucleic acid ~~selected from the group~~ consisting of nucleotides 1234-3618 of SEQ ID NO: 1, ~~a fragment thereof and a substantially homologous variant thereof.~~

~~6. A composition of matter which comprises a peptidic sequence selected from the group consisting of SEQ ID NO: 2, a fragment thereof, a subunit thereof and a substantially homologous variant thereof.~~

~~7~~ 4. A composition of matter ~~according to claim 6~~ which comprises ~~a~~ an isolated peptidic sequence according to SEQ ID NO: 2.

~~8~~ 5. A composition of matter ~~according to claim 6~~ which comprises ~~a~~ an isolated peptidic sequence comprising amino acids 36-217 of SEQ ID NO: 2.

~~9~~ 6. A composition of matter ~~according to claim 6~~ which comprises ~~a~~ an isolated peptidic sequence comprising amino acids 233-794 of SEQ ID NO: 2.

~~10~~ 7. A composition of matter according to claim ~~6~~ 4 which inactivates AHL.

~~11~~ 8. A method of modulating AHL signaling activity which comprises contacting said AHL with a composition of matter according to any one of claims ~~5-10~~ 3 or 4-7.

REPLACEMENT SHEET
5 April 2004

~~12~~ 9. A transgenic plant harboring a nucleic acid ~~selected from the group consisting of nucleotides 1234-3618 of SEQ ID NO. 1, a fragment thereof and a substantially homologous variant thereof~~ of claim 2.

~~13~~ 10. A transgenic non-human animal harboring a nucleic acid ~~selected from the group consisting of nucleotides 1234-3618 of SEQ ID NO. 1, a fragment thereof and a substantially homologous variant thereof~~ of claim 2.

~~14~~ 11. A method of controlling a bacterial disease in a mammal in need thereof which comprises administering to said mammal a composition of matter according to any one of claims ~~5-10~~ 3 or 4-7, wherein the expression of pathogenic genes of said bacteria are regulated by AHL signals.

~~15~~ 12. A method of claim ~~14~~ 12 wherein said mammal is a human.

~~16~~ 13. A method of controlling a bacterial disease in a plant in need thereof which comprises administering to said plant a composition of matter according to any one of claims ~~5-10~~ 3 or 4-7, wherein the expression of pathogenic genes of said bacteria are regulated by AHL signals.

~~17~~ 14. A method of controlling a bacterial disease in a mammal in need thereof which comprises administering to said mammal a composition of matter of claim 2 and its peptide product, wherein the expression of pathogenic genes of said bacteria are regulated by AHL signals.

~~18~~ 15. A method of claim ~~17~~ 14 wherein said mammal is a human.

~~19~~ 16. A method of controlling a bacterial disease in a plant in need thereof which comprises administering to said plant a composition of matter of claim 2, wherein the expression of pathogenic genes of said bacteria are regulated by AHL signals.

~~20~~ 17. A method of controlling a bacterial disease in a plant using any bacterial species containing the composition of matter of claim 2.